

Application No.: 10/611,931

Docket No.: YOR920020368US1
20140-00301-USREMARKS

Claims 1, 4-8, 14-18 and 20-48 are now in the application. Claims 2, 3, 9-13 and 19 have been canceled without prejudice to their reentry at some later date. The indication that claims 16-18 and 24-26 contain allowable subject matter is hereby noted.

Claims 1, 4-8, 14-18, 20-26, 38, 39 and 43-48 are directed to the elected invention identified by the examiner as Group I. Claims 27-37 and 40-42 are drawn to non-elected inventions and may be cancelled by the examiner upon the allowance of the claims directed to the elected invention. Claim 1 has been amended to recite "etching the copper by electroetching" as recited in prior claim 2 and to recite "selectively depositing on the Cu, one or more materials by electrolytic plating or by electroless plating". Claim 24 has been amended to place it in independent form and not to limit its original scope. Claims 20-22 and 39 have been amended to depend upon claim 24 in place of claim 19 in view of the cancellation on claim 19. Claim 26 has been amended to depend upon claim 1 in place of claim 2 in view of the cancellation on claim 2 and not to limit its original scope. Support for new claims 43, 45 and 47 can be found in paragraph 0047 of the specification. Basis for claims 44, 46 and 48 can be found in paragraphs 0042-0045 of the specification. The amendments to the claims and newly presented claims do not introduce any new matter.

The rejection of claim 13 under 35 USC 112, second paragraph has been rendered moot by its cancellation.

Claims 1-6, 9-15, 19, 21-23, 38 and 39 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,395,607 to Chung. Chung does not anticipate Claims 1, 4-8, 14-18, 20-26, 38 and 39. In particular, as mentioned above, Claim 1 has been amended to recite "etching the copper by electroetching" and to recite "selectively depositing on the Cu, one or more materials by electrolytic plating or by electroless plating". Chung fails to disclose selectively depositing on Cu by electrolytic plating or by electroless plating. Chung does not suggest selectively depositing barrier layer 14 on the Cu or fill material. Instead, Chung suggests blanket depositing the barrier layer 14 over the "first barrier layer 6" and to fill the recess. See column 7, lines 49-52. Moreover, nothing in Chung suggests selecting electroetching to form the recesses from all of the possible methods suggested therein in combination with electroplating

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from the various depositing methods mentioned therein or electroless plating, which is not even remotely suggested. In fact, although Chung alludes to electroplating at column 7, line 22, persons skilled in the art appreciate that the barrier materials that were mentioned, titanium, titanium nitride, tantalum, and tantalum nitride, can not be deposited by electroplating.

Chung fails to anticipate the present invention. In particular, anticipation requires the disclosure, in a prior art reference, of each and every recitation as set forth in the claims. See *Titanium Metals Corp. v. Banner*, 227 USPQ 773 (Fed. Cir. 1985), *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 1 USPQ2d 1081 (Fed. Cir. 1986), and *Akzo N.V. v. U.S. International Trade Commissioner*, 1 USPQ2d 1241 (Fed. Cir. 1986).

There must be no difference between the claimed invention and reference disclosure for an anticipation rejection under 35 U.S.C. 102. See *Scripps Clinic and Research Foundation v. Genetech, Inc.*, 18 USPQ2d 1001 (CAFC 1991) and *Stuhlengesellschaft Kohle GmbH v. Dart Industries*, 220 USPQ 841 (CAFC 1984).

Claim 7, 8, and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,395,607 to Chung in view of U.S. Patent 6,670,274 to Liu et al. The cited references do not render obvious Claim 7, 8, and 20. Liu et al. fail to overcome the above discussed deficiencies of Chung with respect to rendering unpatentable the present invention. Liu et al. was relied upon for a disclosure of using Co as a specific composition for a material layer (22) with TaN layer on a Cu (18). Liu et al. fail to disclose selectively depositing on Cu by electrolytic plating or by electroless plating. In fact, Liu et al. do not even suggest selectively depositing. Accordingly, Claim 7, 8, and 20 are patentable for at least those reasons as to why claim 1, as amended, is patentable.

In view of the above, consideration and allowance are, therefore, respectfully solicited.

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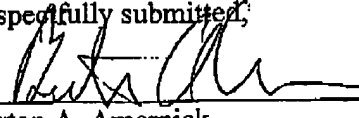
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In the event the Examiner believes an interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

Please charge any required fees to Deposit Account 22-0185.

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Respectfully submitted,

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